V11979

JVC Instructions

PORTABLE COLOUR VIDEO CASSETTE RECORDER

HR-2200EG/EK

MANUEL D'INSTRUCTIONS:
MAGNETOSCOPE COULEUR A CASSETTE PORTABLE
BEDIENUNGSANLEITUNG:
TRAGBARER FARB-VIDEO KASSETTENREKORDER

VHS
PAL

PU30425-339-4

Thank you for purchasing the JVC HR-2200EG/EK Portable Colour Video Cassette Recorder. Based on the VHS video format developed by JVC for full home-video entertainment, this unit has been designed with emphasis on its ease of operation, mobility and ruggedness as a handy portable.

Using this unit in combination with a JVC colour video camera, you can make your own video tapes in a wide variety of situations, outdoors and indoors.

To obtain the best performance and greatest utilization from your HR-2200EG/EK, read this instruction booklet completely and carefully.

CONTENTS

Features 2
Precautions 2
Controls and connectors 3
Remote control unit 5
RF converter adjustment 6
Loading and unloading the video cassette 6
Basic operations 8
Power supply
  Using the exclusive NB-P1 battery pack (provided) 9
  Using a car battery 10
  Using household AC 11
Recharging the NB-P1 battery pack 12
A word on the NB-P1 exclusive battery pack . . . 13
Tape running, moisture condensation and battery power indicators 14
Power button and recording lock button 15
Recording with a video camera 16
Playback using a TV receiver 18
Shuttle search and variable-speed playback 20
Recording off-air TV programmes using the TU-22EG/EK Tuner/Adapter 22
Timer recording using the TU-22EG/EK Tuner/Adapter 23
Audio dubbing 24
Additional facilities 25
Connecting to a video monitor 26
Attaching the shoulder strap or carrying handle 26
Carrying case and Shoulder cart (optional) 27
In case of difficulty 27
Head cleaning 27
Adjust your TV receiver when... 28
Specifications 29

VHS PAL

Only cassettes marked "VHS" can be used with this video cassette recorder.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This unit should be used with 12 V DC only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.

CAUTION:
To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.

The EK-version is for use in the United Kingdom.

WARNING (For EG-version)

1. This set is for exclusive use with the PAL colour system.
   Connect a video camera built to the PAL standard.
2. SECAM colour programmes might be recorded in certain areas when this set is used in combination with a tuner unit but there is no interchangeability of these recorded cassette tapes with other PAL-VHS recorders or SECAM-VHS recorders.
3. Please use the exclusive SECAM-VHS recorder in SECAM broadcasting areas.
4. Please use only PAL prerecorded cassette tapes of PAL signals which have been recorded with the PAL-VHS system.

Note:
The rating plate (Serial Number Plate) is on the bottom of the unit.

IMPORTANT: It is permissible to record television programmes only in the event that third party copyrights and other rights are not violated.

WARNING (The United Kingdom)
Recording and playback of material may require consent. See copyright Act 1956 and Performers Protection Act 1958 – 1972.

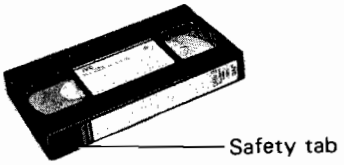
FEATURES

- Extremely compact and lightweight, easy-to-use portable recorder built to the VHS format.
- Flexible three-way power supply arrangement – exclusive Ni-Cd rechargeable battery pack, household AC and car battery.
- Feather-light touch pushbutton operation due to microprocessor-based full-logic tape control.
- Full 12-mode remote control operation.
- Newly-developed slow-motion mechanism for producing clean slow-motion pictures.
- Shuttle search for quick picture search in both directions at a speed about 10 times the normal.
- ESC (Edit Start Control) system minimizing picture distortion between separately recorded segments.
- Audio dubbing facility provided to record sound track on pre-recorded tapes.
- May be connected to most TV receivers due to the built-in RF converter.
- Tape running indicator for easy visual check of the tape running condition.
- LCD (Liquid Crystal Display) tape counter with memory function.
- Recording standby mode lock switch provided.

PRECAUTIONS

Handling and storage

- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or remodel the unit, as this will cause danger and malfunctioning.
- Do not use the unit when it is lightening in the vicinity and exercise special care not to allow the unit to become wet when shooting outdoors on rainy days.
- Do not place heavy objects on the unit.
- Do not apply shocks to the unit.
- Do not subject the unit to direct sunlight or place it near a heater for a long period of time, otherwise the cabinet may become deformed or the internal electronic components such as transistors may be damaged. Pay special attention of rising temperature in closed cars on hot summer days; the temperature in closed cars sometimes reaches as high as 80°C.
- Avoid using the unit under the following conditions:
  - Extremely hot or cold places
  - Near appliances generating strong magnetic fields
  - Moving from a cold to a warm place
  - Places subject to excessive humidity, dust or vibrations



Video cassettes

- The HR-2200EG/EK employs VHS type cassettes only; E-180 for 3 hours, E-120 for 2 hours, E-60 for 1 hour and E-30 for 30 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed. If you wish to record on a cassette whose tab has been removed, use adhesive tape to block the hole.
- Do not load and unload a video cassette successively without allowing the tape to run. This may slacken or damage the tape.
- An inverted cassette cannot be inserted.
- Do not touch the tape directly.
- Do not disassemble the video cassettes.
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or a magnet) and dusty places.
- Place the cassettes in cassette cases and position them vertically.

Operation

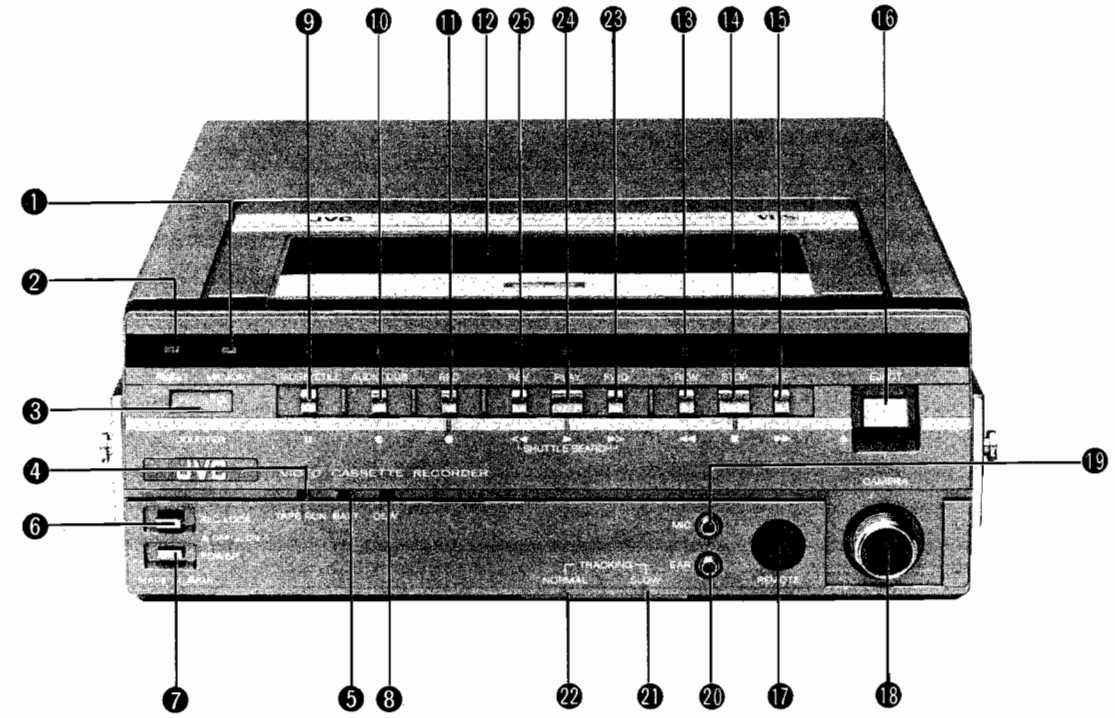
- Use the NB-P1 exclusive battery pack (provided) for battery operation.
- Recharge the battery pack immediately after every use.
- Use the AA-P22EG/EK AC Power Adapter or the TU-22EG/EK Tuner/Adapter for AC operation.
- Before switching the power off with either of these adapters, make sure that the HR-2200EG/EK recorder is in the Stop mode.

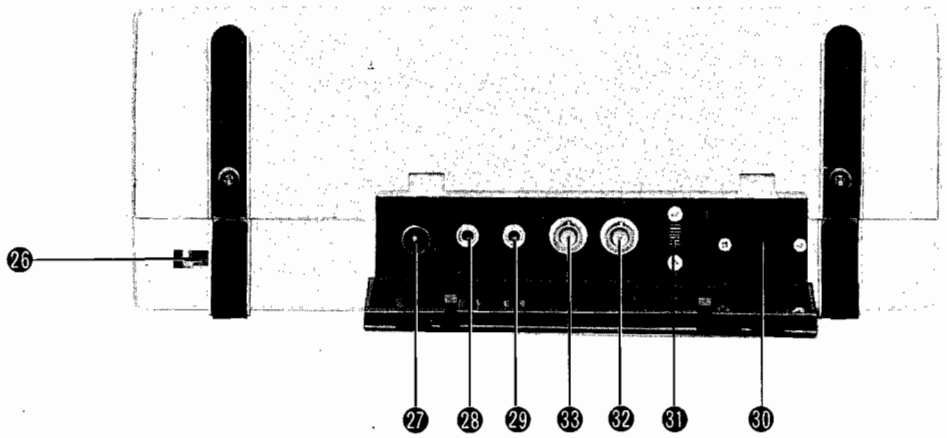
Maintenance

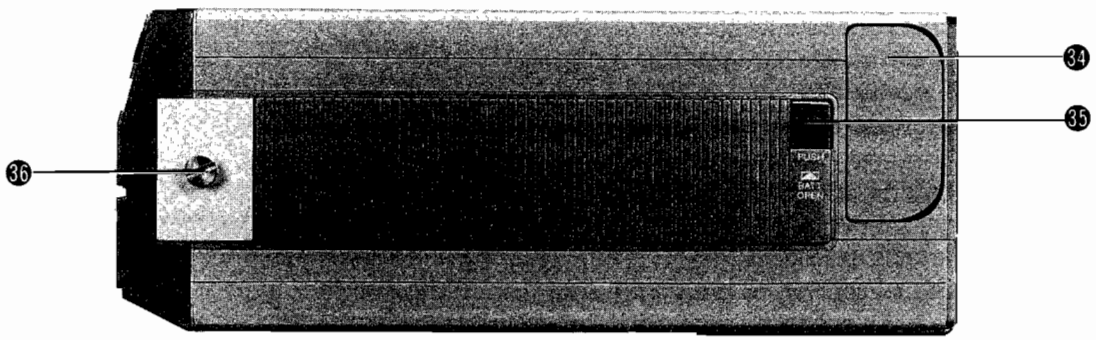
- Do not use thinner or benzine to clean the cabinet; use a piece of soft cloth. If it becomes excessively dirty, wipe with a cloth soaked in a neutral cleaner diluted with water and then with a dry cloth.

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

CONTROLS AND CONNECTORS



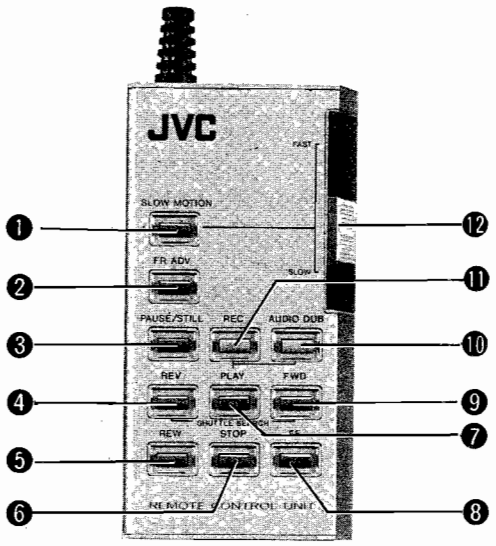




1. **MEMORY button**
   For automatic tape indexing in conjunction with the tape counter. When this button is pressed, "M" appears at the bottom left-hand corner of the tape counter display. In this state, the tape will stop automatically in the Rewind and Fast Forward modes at the counter reading of "0". At the same time, the Memory mode is automatically released with the indication "M" disappearing. (See page 25.)
2. **Counter RESET button**
   Press to reset the tape counter to "0".
3. **Tape COUNTER**
   Displays from "-1999" to "+1999" as the tape runs.
4. **Tape running indicator (TAPE RUN)**
   Flashes in synchronism with the take-up reel speed.
5. **Battery power warning indicator (BATT)**
   Lights red to warn of insufficient battery power. (See pages 10 and 14.)
6. **Recording standby mode lock button (REC LOCK)**
   This button is used together with the POWER button to save battery power while at the same time maintaining the Recording Standby mode so that smooth assembled recordings can be made. (See page 15.)
7. **POWER button**
   Press to turn the power ON (▬). Press again to turn the power OFF (■). Either in battery or AC operation, pressing this button in starts consuming power. Especially in battery operation, be sure to press this button to OFF whenever the recorder is not in use.
8. **Moisture condensation indicator (DEW)**
   When this indicator lights red, all operation mode indicators above the control buttons flash in succession from left to right. This indicates that moisture has condensed inside the unit and the recorder cannot be operated until the moisture is eliminated. (See page 14.)
9. **PAUSE/STILL button**
   Press to stop the tape temporarily. During recording, press this button to avoid recording unwanted material. During playback, press this button to view a still picture.
10. **AUDIO DUB button**
    Press together with the PLAY button to record audio on a pre-recorded tape.
11. **Record button (REC)**
    Press together with the PLAY button for video and audio recording.
12. **Cassette housing**
    When the EJECT button is pressed, the cassette housing lifts gently.
    - When removing the cassette, make sure that the recorder is in the Stop mode. Then press the EJECT button.
13. **Rewind button (REW)**
    Press to rewind the tape. The REW button can be pressed directly from any mode except the Record and Audio Dub modes.
14. **STOP button**
    Press to stop the tape. When the STOP button is pressed, the tape is unloaded from around the tape transport mechanism and stops inside the cassette. This is referred to as the Stop mode. The LED indicator above the STOP button remains lighted in the Stop mode.
15. **Fast forward button (FF)**
    Press to fast forward the tape. The FF button can be pressed directly from any mode except the Record and Audio Dub modes.
16. **EJECT button**
    Press to lift the cassette housing.
17. **REMOTE control connector**
    Connect the provided remote control unit to this terminal.
18. **CAMERA connector**
    Connect a JVC video camera having a 10-pin camera cable to this connector.
19. **Microphone jack (MIC)**
    Connect a microphone for audio dubbing.
20. **Earphone jack (EAR)**
    Connect the provided earphone for monitoring the sound. The sound can be monitored during recording, playback, audio dubbing and in the E-E (Electric-Electric) mode in which the input signal is not being recorded onto the tape, but being monitored on a connected TV.
21. **TRACKING SLOW control**
    Turn this control to minimize noise bars, if observed during slow-motion or still-frame playback.
22. **TRACKING NORMAL control**
    Turn this control to minimize noise bars, if observed during normal-speed playback.
23. **SHUTTLE SEARCH FWD button**
    This button enables high-speed playback (video only) in the forward direction only while it is being pressed. (See page 20.)
24. **PLAY button**
    Press to play back the tape. Also press this button together with the REC button for recording or with the AUDIO DUB button for audio dubbing. The PLAY button should be pressed first for obtaining any playback mode.
25. **SHUTTLE SEARCH REV button**
    This button enables high-speed playback (video only) in the reverse direction only while it is being pressed. (See page 20.)

26. **RF converter channel adjustment screw**
For selecting between UHF channels 32 and 40 depending on the vacant channel for the RF output.
27. **RF OUT connector**
The output of the built-in RF converter is available from this connector. Connect to the UHF antenna terminal of a TV receiver for viewing video programmes on the TV screen.
28. **AUDIO OUT connector**
The audio signals being recorded or played back are available from this connector.
29. **AUDIO IN connector**
Connect a tape recorder or other audio sources for recording. This connector can also be used to connect to the audio output terminal of a tuner (other than the TU-22EG/EK Tuner/Adapter).
30. **TUNER/AC ADAPTER connector**
For the connection of the TU-22EG/EK Tuner/Adapter, AA-P22EG/EK AC Power Adapter or AP-P2 Car Battery Cord. When connected to the TU-22EG/EK, this connector handles audio and video signals, power supply and timer recording trigger signal. When connected to the AA-P22EG/EK or AP-P2, it functions only as a power input connector.
31. **EXT LINE IN/TUNER select switch**
Set to TUNER when recording off-air TV programmes using the TU-22EG/EK Tuner/Adapter.
Set to EXT LINE IN when recording sources connected to the VIDEO IN and AUDIO IN connectors.
For camera recording using a camera connected to the front panel CAMERA connector, this switch may be set to either position.
32. **VIDEO IN connector**
Connect a video signal source other than that from a JVC video camera. This connector can also be used to connect to the video output terminal of a tuner (other than the TU-22EG/EK Tuner/Adapter).
33. **VIDEO OUT connector**
The video signals being recorded or played back are available from this connector.
34. **Battery compartment**
Install the exclusive NB-P1 battery pack.
35. **BATTERY eject button**
Press this button to remove the battery.
36. **Shoulder strap/carrying handle retainer**
Attach either the shoulder strap or the carrying handle (provided).

REMOTE CONTROL UNIT



The provided full-function remote control unit allows operation of the HR-2200EG/EK from a distance. All tape control buttons are duplicated on the remote control unit, which has some additional tape control capabilities such as slow-motion playback at variable speeds and single-frame advance.

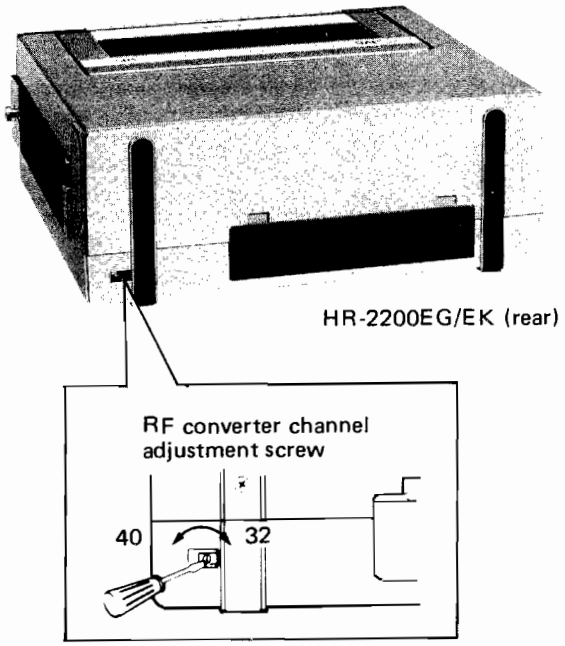
1. **SLOW MOTION button**
Press to view slow-motion playback.
2. **Frame advance button (FR ADV)**
Press to view the playback picture frame by frame. When this button is pressed once in the Still mode, the picture is advanced by one frame. Keeping this button pressed, the picture is advanced by one frame per second.
3. **PAUSE/STILL button**
Same as the PAUSE/STILL button on the recorder.
4. **SHUTTLE SEARCH REV button**
Same as the SHUTTLE SEARCH REV button on the recorder.
5. **REW button**
Same as the REW button on the recorder.
6. **STOP button**
Same as the STOP button on the recorder.
7. **PLAY button**
Same as the PLAY button on the recorder.
8. **FF button**
Same as the FF button on the recorder.
9. **SHUTTLE SEARCH FWD button**
Same as the SHUTTLE SEARCH FWD button on the recorder.
10. **AUDIO DUB button**
Same as the AUDIO DUB button on the recorder.
11. **REC button**
Same as the REC button on the recorder.
12. **SLOW MOTION speed control knob (FAST/SLOW)**
After engaging the Slow-motion mode, adjust the speed by sliding this knob to meet your specific needs; toward FAST for faster speeds and toward SLOW for slower speeds.

RF CONVERTER ADJUSTMENT

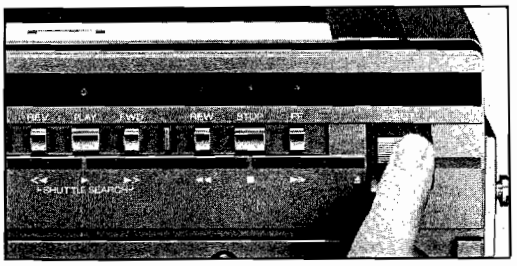
The HR-2200EG/EK incorporates an RF converter for playback using a TV receiver. The output of the RF converter can be seen on the TV screen on a vacant channel which is not used for public broadcasting. The RF converter in this unit has been set to UHF channel 36 before shipment. If channel 36 is employed for broadcasting in your area, reset the RF converter channel to one of the vacant channels between 32 and 40 as follows:

1. Adjust the TV receiver channel to one of the vacant channels.
2. Connect a video camera and switch the power on for the recorder.
3. While monitoring the camera signal on the TV screen, turn the RF converter channel adjustment screw in either direction so that the monitored picture comes in most clearly.

- Converter channel resetting is also possible using a pre-recorded cassette. Play back the cassette and adjust the screw to obtain the clearest picture on the TV screen.
- When you wish to view video cassette programmes, always set the TV receiver's channel selector to your VIDEO CHANNEL.

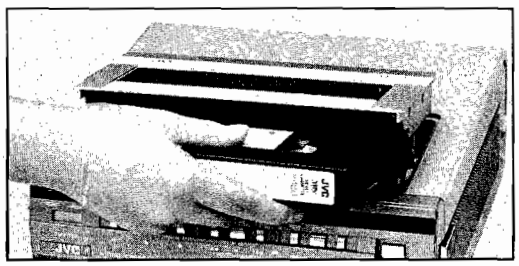


LOADING AND UNLOADING THE VIDEO CASSETTE

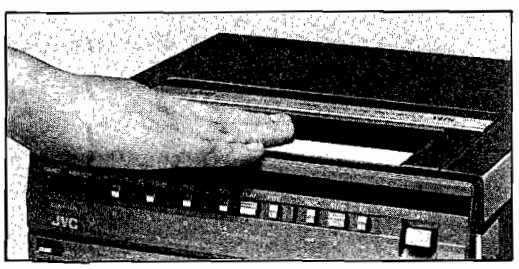


Loading

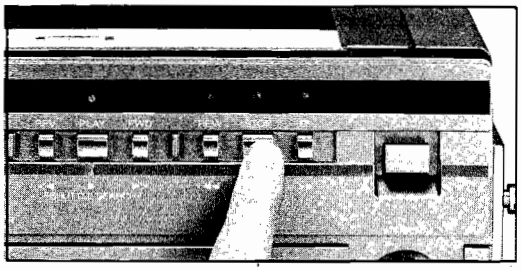
1. Press the EJECT button.
   The cassette housing will lift gently.



2. Insert a cassette fully and correctly.
   - An inverted cassette cannot be inserted.

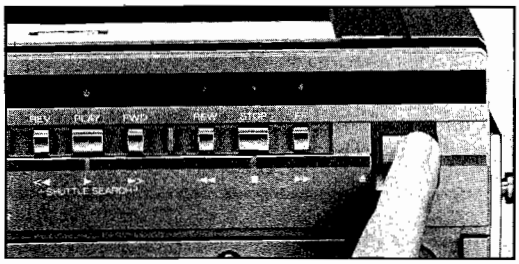


3. Press the cassette housing down to lock in place.
   - Be careful not to press the cassette housing with a cassette inserted midway.

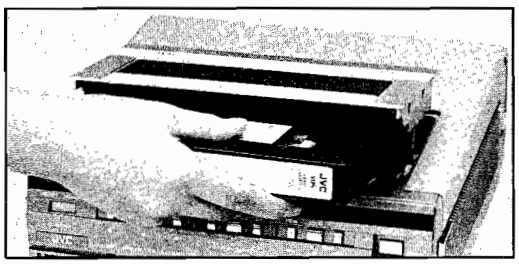


Unloading

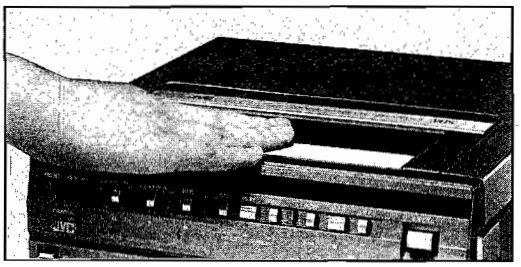
1. Make sure that the recorder is in the Stop mode.



2. Press the EJECT button.



3. Remove the cassette.



4. Press the cassette housing down until it locks.

If the EJECT button cannot be pressed in . . .

The tape is loaded around the tape transport mechanism and, therefore, the cassette housing is prevented from lifting up. Press the POWER button to ON and press the STOP button to return the tape into the cassette. Then the EJECT button becomes operative.

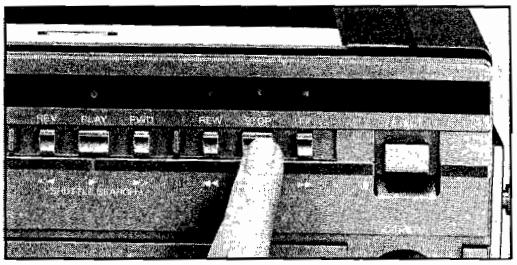
Notes

- Do not load and unload the cassette successively without allowing the tape to run at all. This would slacken the tape and thereby damage it.
- VHS video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed. If you wish to record on a cassette whose tab has been removed, use cellophane tape to block the slot.

Refer to page 2 for more information regarding the video cassette.

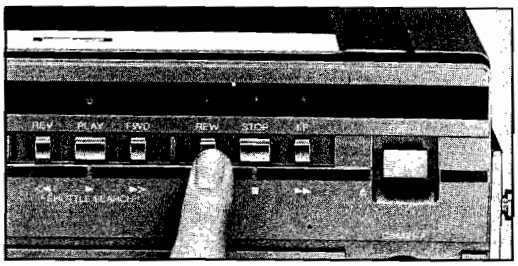
BASIC OPERATIONS

When operating this unit, first press the POWER button to ON (—).



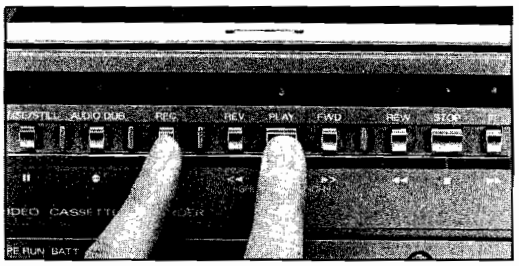
STOP button
When the STOP button is pressed, the tape returns into the cassette and stops. (This is referred to as the Stop mode.)

- The STOP button has priority over all other operational modes.

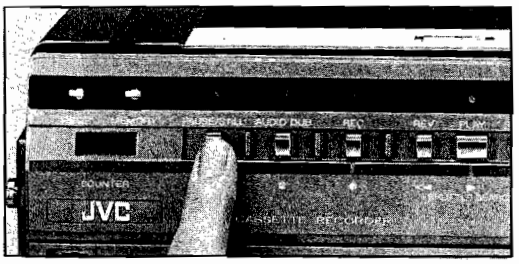


REW button
Press this button to rewind the tape.

FF button
Press this button to fast forward the tape.

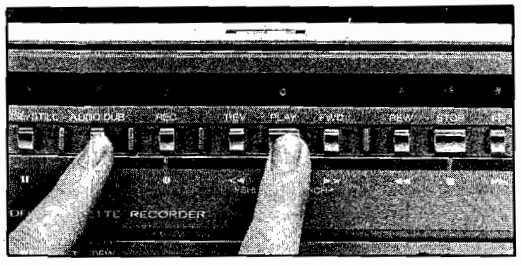


REC button
Press this button simultaneously with the PLAY button to start recording.

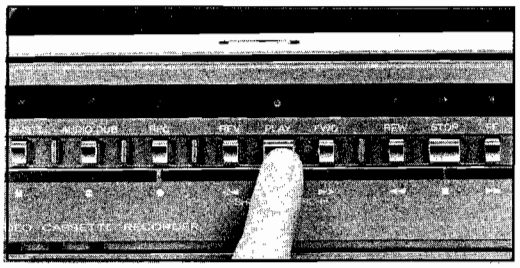


PAUSE/STILL button
Press this button to stop the tape temporarily.

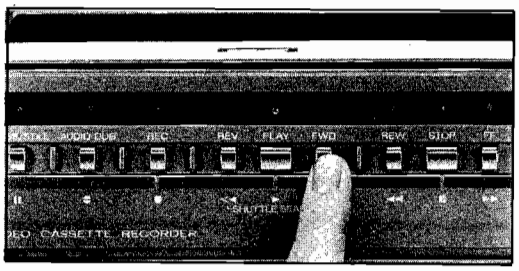
- When this button is pressed during recording, the input signal is seen on the TV screen, but recording does not take place.
- When this button is pressed during playback, a still picture can be obtained.
- To release the Pause or Still mode, press the PLAY button.



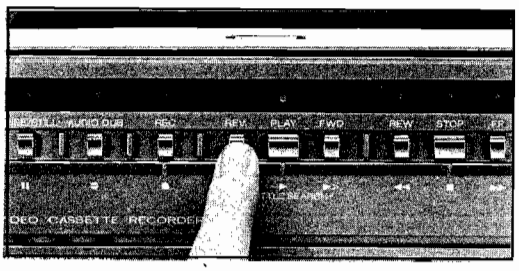
AUDIO DUB button
Press this button simultaneously with the PLAY button to record sound on pre-recorded tapes.



PLAY button
Press this button to play back pre-recorded cassettes.
- Press this button simultaneously with the REC button for recording or with the AUDIO DUB button for audio dubbing.



SHUTTLE SEARCH FWD button
When this button is pressed during playback, playback speed is accelerated to about 10 times normal.

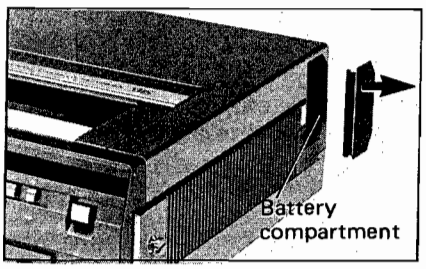


SHUTTLE SEARCH REV button
When this button is pressed during playback, reverse playback takes place at a speed about 10 times normal.

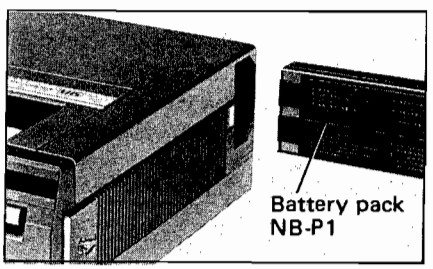
POWER SUPPLY

The HR-2200EG/EK employs a convenient three-way power supply system. Select household AC current, NB-P1 exclusive battery pack or car battery according to your specific situation.

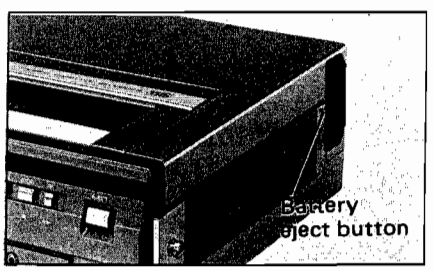
Using the exclusive NB-P1 battery pack (provided)
Use the exclusive NB-P1 battery pack when you operate the HR-2200EG/EK outdoors in combination with a video camera.



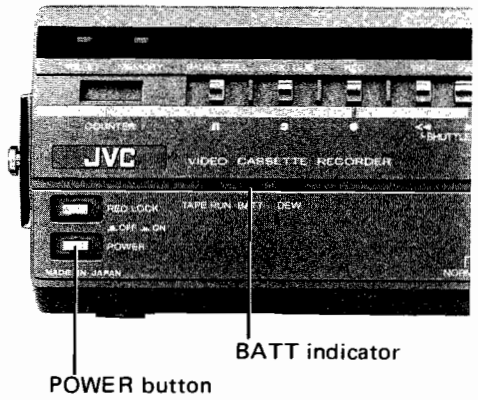
1. Remove the battery compartment cover.
- After installing the battery pack, do not use the battery compartment cover.



2. Insert a battery pack into the compartment. When it is fully inserted, it locks automatically and electrical connection is made.



3. To unload the battery pack, push the BATTERY eject button.

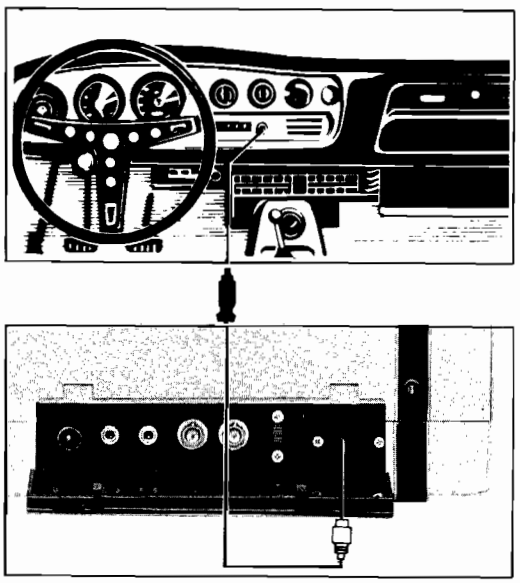


Notes

- Prior to inserting a battery pack, be sure to set the POWER button to OFF (⏏).
- Before use, be sure to recharge the battery pack. For recharging procedures, refer to page 12.
- Exercise special care not to allow any foreign matter to enter the battery compartment, otherwise malfunctioning may occur.
- If the BATT indicator on the front panel should light during operation via the battery pack, the battery power is nearing its end. If the operation mode indicators above the control buttons should flash in succession from left to right with the BATT indicator lighting (referred to as the emergency mode), the battery power is insufficient for any further operation. At that time, the power is automatically switched off. Recharge the battery pack or replace it with a fully charged one.

Using a car battery

When you wish to drive the HR-2200EG/EK with a car battery, employ the AP-P2 Car Battery Cord (optional).



1. Plug one end of the car battery cord into the car's cigarette lighter socket.
   - Prior to connecting, be sure to set the POWER button to OFF (⏏).

2. Plug the other end of the cord into the recorder's TUNER/AC ADAPTER connector.

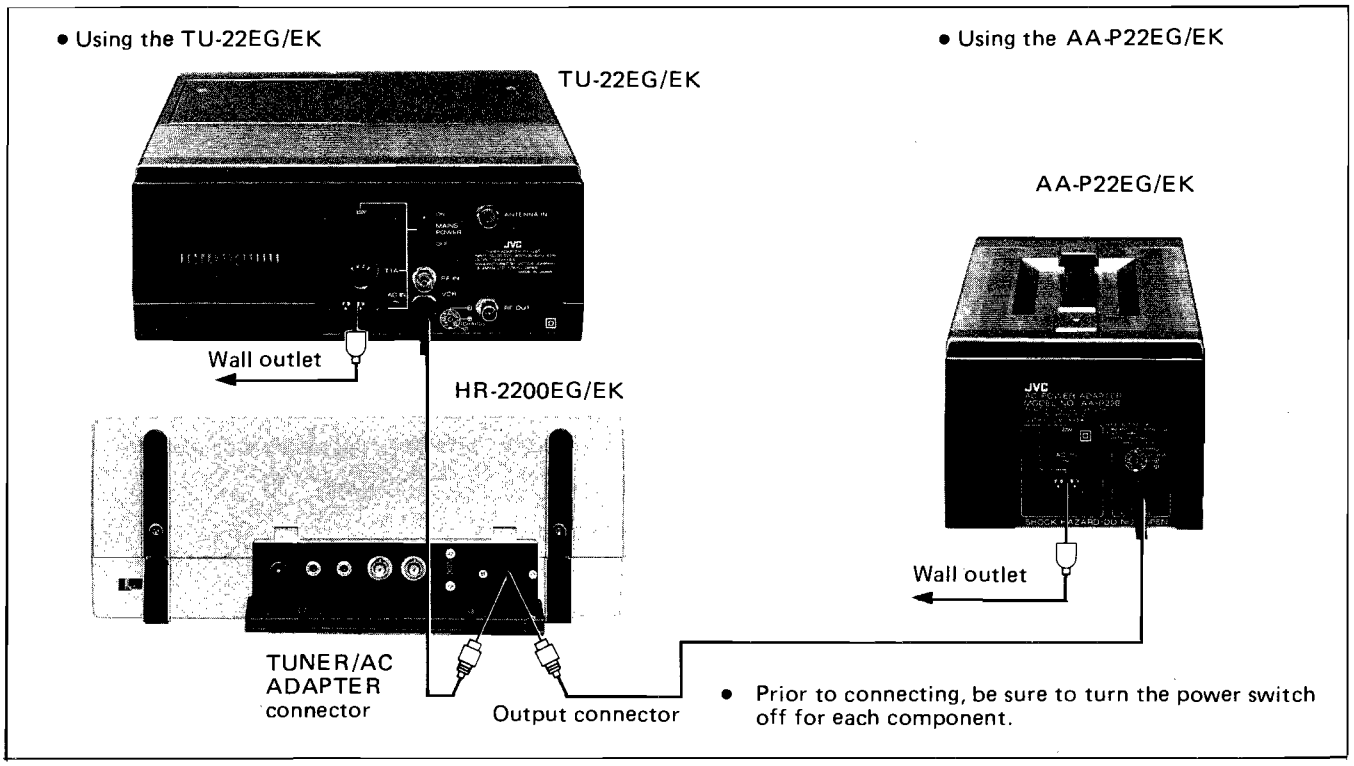
Notes

- To stop power supply, be sure to put the recorder in the Stop mode first. Then unplug the cord.
- Use the car battery with the engine idling or while driving the car in order to avoid discharging the car battery.
- The AP-P2 car battery cord is exclusively for 12-volt NEGATIVE-GROUNDED car batteries. It cannot be connected to cars having positive-grounded batteries.
- When the car battery cord is connected to the recorder, power supply from the built-in battery pack is automatically switched off.

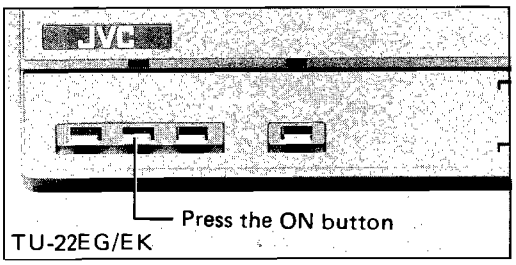
Using household AC

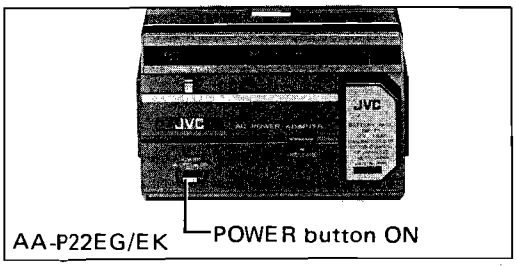
If you wish to power the HR-2200EG/EK from an AC outlet, employ either the TU-22EG/EK Tuner/Adapter or the AA-P22EG/EK AC Power Adapter.

Connection



Operation





- After making correct connections as illustrated, turn the power on for the tuner/adapter or the AC power adapter by pressing the relevant button.
- Press the POWER button of the recorder to ON. This makes the recorder to be powered from the AC outlet.
- Prior to switching the power off, be sure that the recorder is in the Stop mode.

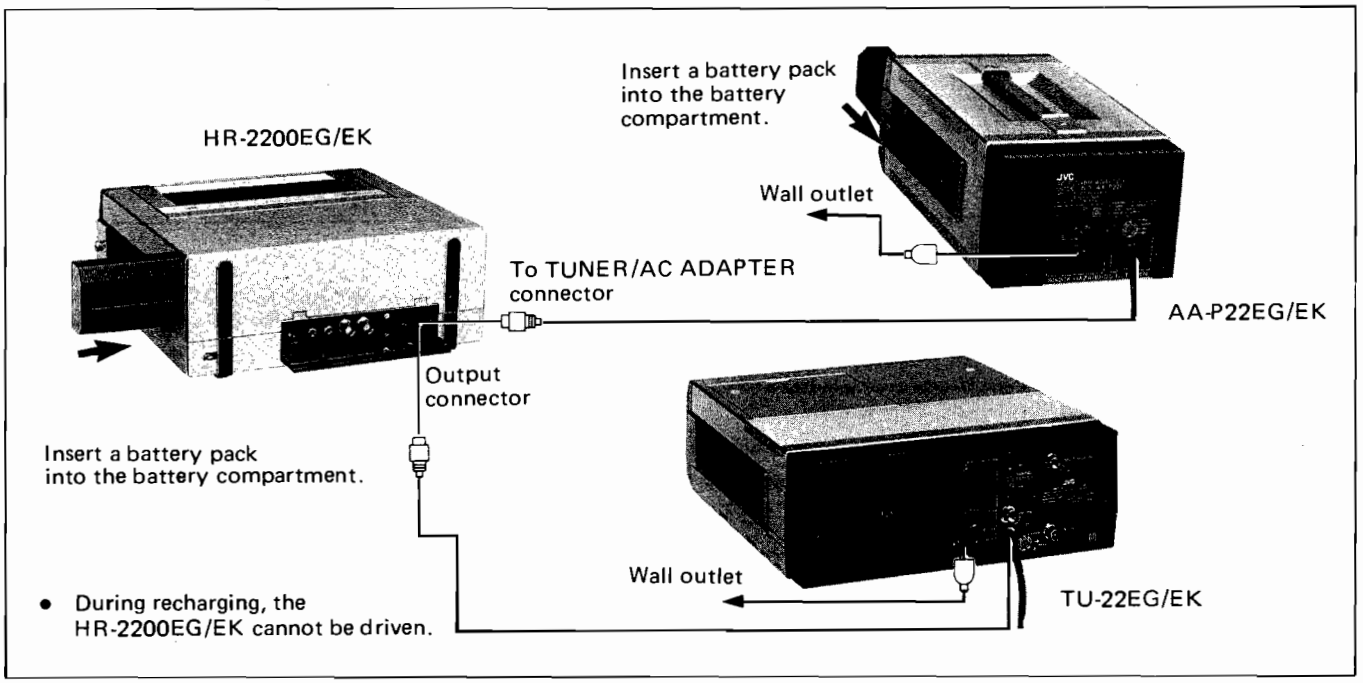
Notes

- When the tuner/adapter or the AC power adapter is connected to the recorder, power supply from the built-in battery pack is automatically switched off.
- If a power failure should occur during AC operation, the video cassette cannot be removed unless the recorder is already in the Stop, Rewind or Fast Forward mode. In such cases, wait until power is re-applied.

RECHARGING THE NB-P1 BATTERY PACK

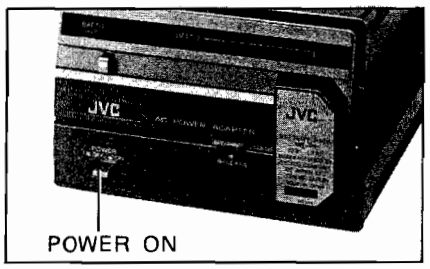
Either the AA-P22EG/EK AC Power Adapter or the TU-22EG/EK Tuner/Adapter can be used to recharge the NB-P1 battery pack.

- For more information, refer to the instruction manual relevant to those models.
- Prior to connecting, switch the power off for the AA-P22EG/EK or TU-22EG/EK.

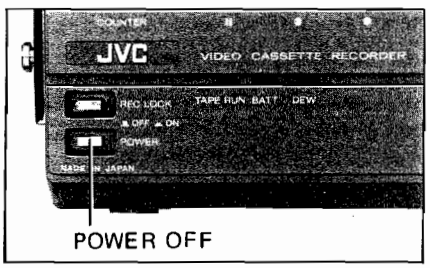


Using the AA-P22EG/EK AC Power Adapter

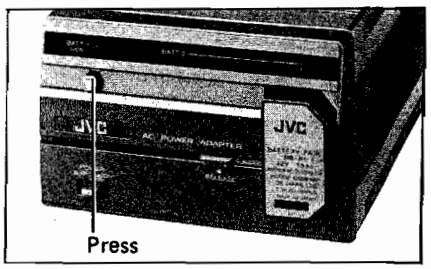
The AA-P22EG/EK can recharge two battery packs in series. First the battery pack installed in the HR-2200EG/EK is recharged and then, automatically, the battery pack installed in the adapter is recharged.



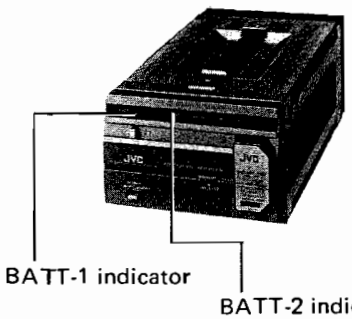
1. Insert a battery pack into the recorder or the adapter, or into both.
   Press the POWER button on the adapter to ON.



2. After making sure that the recorder is in the Stop mode, press the POWER button on the recorder to OFF.



3. Press the CHARGE START button on the adapter.

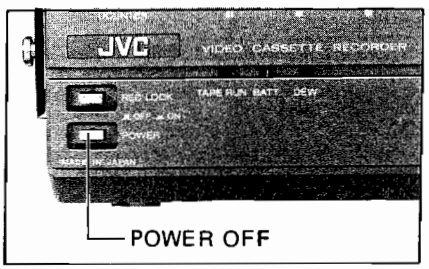


Checking the charging condition

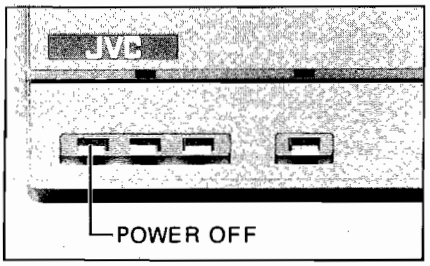
- During charging, either one of the BATT indicators remains lighted. The indicator turns off when the battery pack is fully charged.
- The BATT-1 indicator takes care of the battery installed in the recorder, and the BATT-2 indicator the battery installed in the adapter.
- If two batteries are to be recharged in series, recharging time is about 3 hours.
- Recharging will be finished in about 90 minutes when one battery, installed either in the recorder or adapter, is being recharged.
- Recharging automatically stops if you press the POWER button of the recorder to ON during recharging. If you continue recharging, press the POWER button of the recorder to OFF and press the CHARGE START button of the adapter once again.

Using the TU-22EG/EK Tuner/Adapter

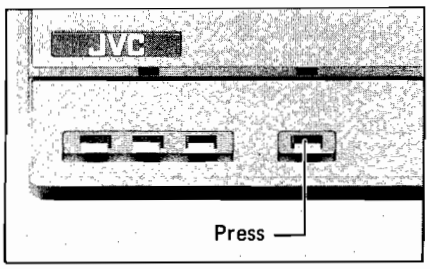
The TU-22EG/EK can recharge the battery pack installed in the recorder.



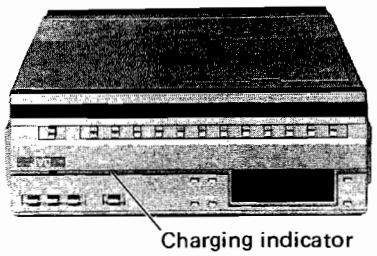
1. After confirming that the recorder is in the Stop mode, press the POWER button of the recorder to OFF.



2. Insert a battery pack into the battery compartment of the recorder and press the POWER OFF button of the Tuner/Adapter.



3. Press the CHARGE START button of the Tuner/Adapter.



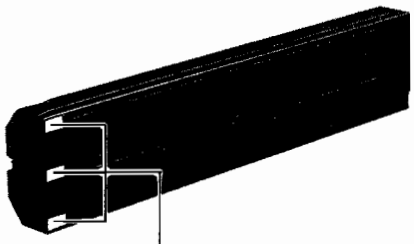
Checking the charging condition

- During charging, the LED indicator above the CHARGE START button of the Tuner/Adapter remains lighted. The indicator turns off when the battery pack is fully charged.
- Charging time is about 90 minutes.
- Immediately after the battery pack has been fully recharged, it may have become warm. This is not due to any defect of the battery pack.

A WORD ON THE NB-P1 EXCLUSIVE BATTERY PACK

The NB-P1 is a nickel-cadmium battery. Give attention to the following to make the most of its characteristics.

For safety, this battery pack has been kept in the uncharged state for shipment. Therefore, before use, be sure to charge it.



Temperature ranges

The recharging time is based on room temperature of 20°C with a power supply of 220 V (EG-version) or 240 V (EK-version). The lower the temperature, the longer the recharging time.

For charging: 10°C to 35°C

For operating: -10°C to 40°C

For storing: -10°C to 30°C

- **Do not over-discharge.**
  During operation with this battery pack, if the battery power warning indicator of your recorder lights, turn the power switch off or replace the battery pack with a charged one. If you continue to discharge the battery pack after the indicator lights, it will be over-discharged and its service life may be shortened.
- **Avoid repeated charging.**
  Charging the battery pack repeatedly without using it may cause over-charging and shorten its service life.
- **Recharge using only a specified charger at 10°C to 35°C (50°F to 95°F).**
  Especially avoid recharging in a place under 10°C (50°F), as it may cause over-charging.
- **After use, store in a discharged condition.**
- **Do not store in places of high temperatures.**
  Choose a dry place having temperatures between -10°C (14°F) and 30°C (86°F) for optimum storage.
- **The battery pack becomes warm immediately after being charged. This is not due to any defect.**

Caution

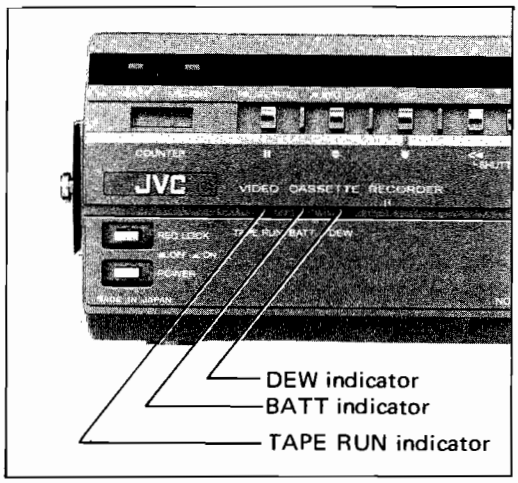
The terminals are exposed on the bottom of the battery pack. DO NOT short-circuit these terminals.

- If they are shorted, a great amount of current flows. This is not only very dangerous, but also makes the battery pack unusable.
- When transporting or storing the battery pack, exercise special so that no metallic object touches the terminals.
- Always keep the terminals clean. If they become dirty, wipe them with a piece of soft cloth.

TAPE RUNNING, MOISTURE CONDENSATION AND BATTERY POWER INDICATORS

To assure worry-free operation, the HR-2200EG/EK is equipped with LED indicators; one for tape running, one for battery power and one for moisture condensation. These indicators function when the POWER button is pressed to ON.

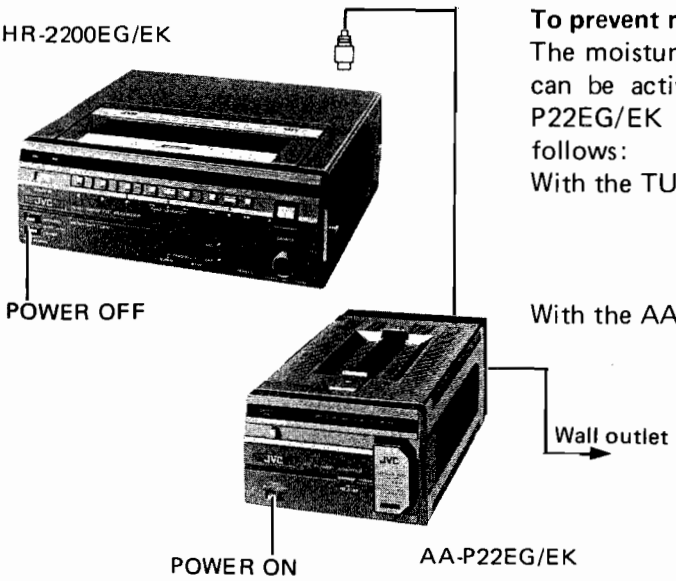
INDICATORS



TAPE RUN indicator
This indicator flickers red while the tape is running. The flickering speed is synchronized with the take-up reel speed. It turns off in the Stop, Pause and Still modes.
During recording or normal playback: The indicator flickers showing that the tape is running normally.
During rewinding, fast forwarding or shuttle search operation: The flickering speed is accelerated.

BATT indicator
During battery operation this indicator warns of insufficient power, followed by the operation mode indicators flashing in succession from left to right, then the power is automatically switched off. If this battery warning indication happens, recharge the battery pack or replace it with a fully charged one.

DEW indicator
- Moisture condensation on the head drum, one of the most crucial parts of the video recorder, will cause damage to the tape.
- Moisture in the air will condense on the head drum when you move the unit from a cold place to a warm place, after heating a cold room or under extremely humid conditions.
- The DEW indicator, together with the operation mode indicators flashing in succession from left to right, informs you that moisture has condensed inside the unit. As long as this emergency mode is engaged, the HR-2200EG/EK cannot be operated.
- If this dew warning indication happens when you have powered the recorder, you must turn off the unit and wait for a few hours until the indicators no longer light when power is applied to the recorder.



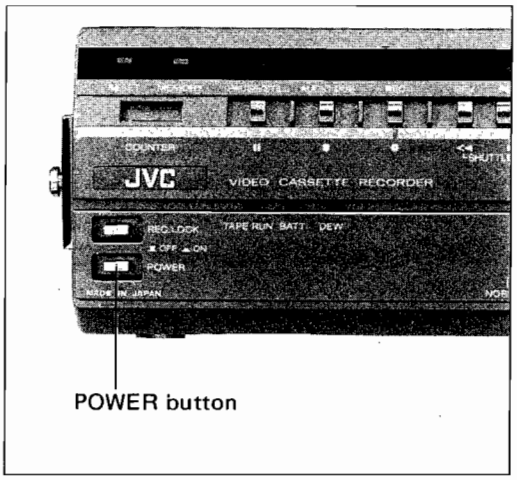
To prevent moisture condensation
The moisture condensation prevention heater inside the recorder can be activated if you leave either the TU-22EG/EK or AA-P22EG/EK connected to the recorder and set these units as follows:

With the TU-22EG/EK: The OFF button of the TU-22EG/EK should be engaged and the POWER button of the HR-2200EG/EK should be OFF.

With the AA-P22EG/EK: The POWER button of the AA-P22EG/EK should be ON and the POWER button of the HR-2200EG/EK should be OFF.

When not using the recorder for a long period of time, unplug the TU-22EG/EK or AA-P22EG/EK from the AC outlet to save energy.

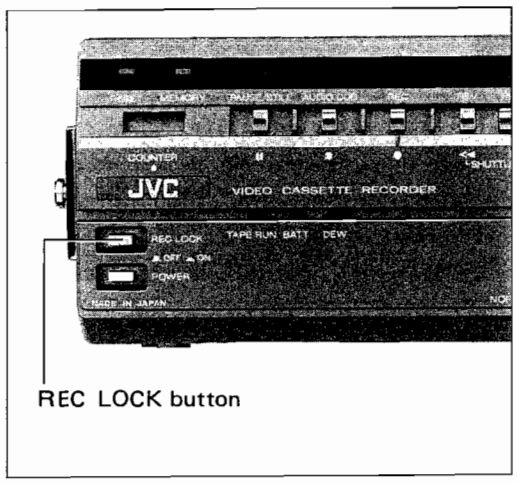
POWER BUTTON AND RECORDING LOCK BUTTON



POWER button

When this button is pressed to ON (—), the recorder is powered and starts consuming power either from the built-in battery pack, car battery or AC via the AA-P22EG/EK or TU-22EG/EK.

- When this button is pressed to ON, the STOP indicator lights informing you that the recorder is in the Stop mode.
- If you switch the power off in the Record or Play mode, the tape stops as it is loaded around the tape transport mechanism. And, when the power is re-applied, it automatically enters the Stop mode, unless the REC LOCK button is pressed in.
- When not in use, switch the power off to save power.



REC LOCK button

This button is especially helpful to save battery power when the recorder is used in combination with a camera.

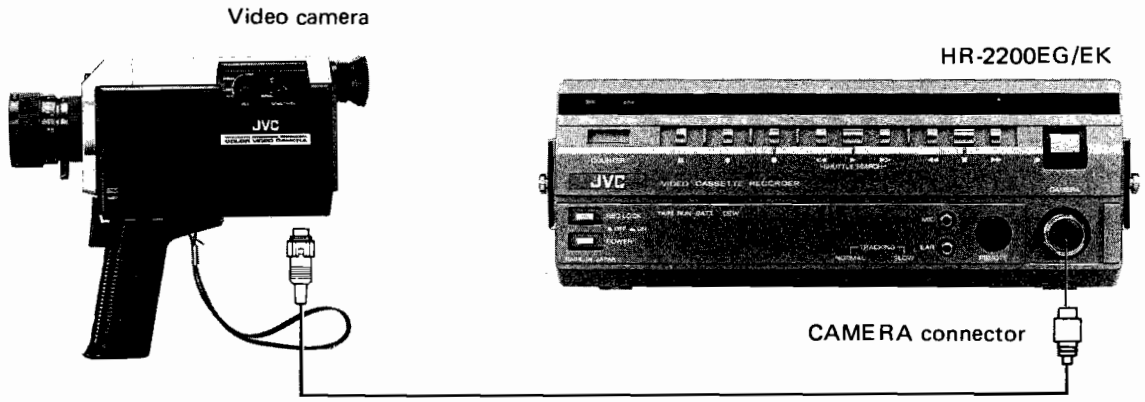
- Since the ESC (Edit Start Control) system functions only when recording is initiated from the Pause mode (with the tape loaded around the tape transport mechanism), it is necessary to keep the Pause mode for obtaining clean assembled recordings. This also means that you have to keep powering the recorder.
- The REC LOCK button is incorporated to avoid such unnecessary power consumption while operating in the Recording Standby mode.
- You can switch off the power while in the Record mode. When you re-apply power, first press the REC LOCK button and then the POWER button. Then the tape will not enter the Stop mode, but directly start recording from the Pause mode allowing the ESC system to function as it should (See page 17).
- If you leave the REC LOCK button engaged, you have only to press the POWER button to ON or OFF to control the starting and stopping of recording.

CAUTION

- If the POWER button is pressed to ON with the REC LOCK button engaged, recording automatically starts. If a pre-recorded cassette is loaded, it will be erased and re-recorded. Make it a rule to release the REC LOCK button by pressing it again after using the Recording Standby mode lock facility.

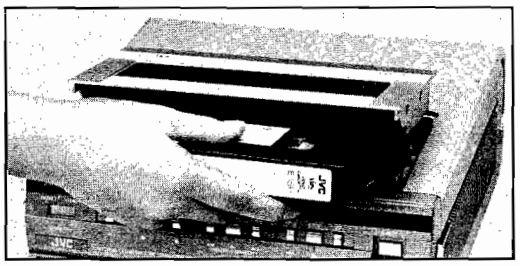
RECORDING WITH A VIDEO CAMERA

Connection



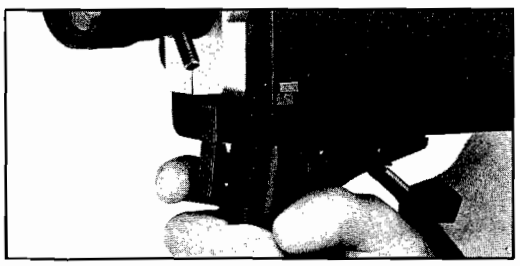
- Read carefully the instruction manual for the camera to be connected.
- For powering the system, refer to pages 9, 10 and 11.

Operation

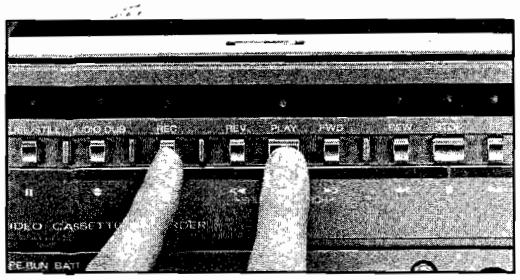


1. Load a video cassette correctly.

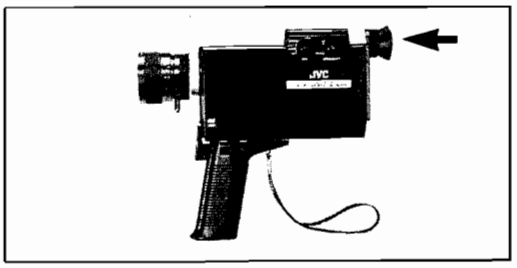
2. Press the POWER button of the recorder to ON.
   - The LED indicator above the STOP button will light.
   - The recorder will start consuming power.
   - This also will start supplying power to the camera, and if a monitor or TV receiver is connected to the recorder or if the electronic viewfinder is used, pictures can be monitored on the TV or viewfinder screen.



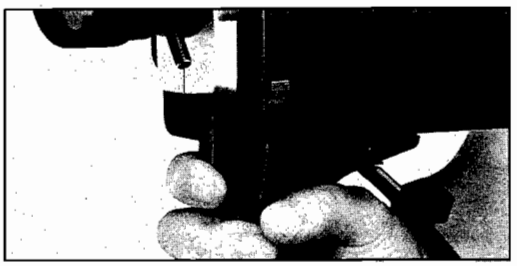
3. Make sure that the camera's trigger switch is in its "off" position.



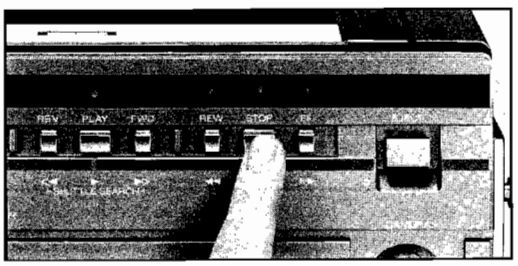
4. Press the REC and PLAY buttons simultaneously.
   - Recording does not take place as long as the camera's trigger switch is in its "off" position. This state is referred to as the "Recording Standby" mode.



5. Adjust the exposure, focus and composition, looking through the viewfinder.



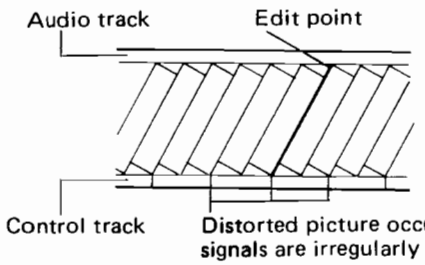
6. Press the camera's trigger switch.
   - Recording will start, with both the REC and PLAY indicators lighting.
   - To stop recording temporarily, release the trigger switch to enter the Recording Standby mode.



7. To end recording, press the STOP button of the recorder and then the POWER button to OFF.

Notes
- If you remain in the Recording Standby mode for longer than 5 minutes with the power on, the recorder automatically enters the Stop mode to protect the tape.
- If the battery power becomes insufficient during battery operation, the BATT indicator lights red and then the recorder automatically enters the Stop mode.

To produce clean assembled recordings



Distorted picture occurs if these control signals are irregularly recorded.

- The HR-2200EG/EK incorporates the ESC (Edit Start Control) mechanism which minimizes picture distortion between separately recorded segments. As long as the starting and stopping of the tape is controlled by the camera's trigger switch, this ESC mechanism functions to start recording of the next segment exactly at the edit point.
- If you wish to stop recording longer than 5 minutes for preparing for the next shot, turn the power off to save battery power.
  However, even in such a case, clean assembled recordings can be made by using the REC LOCK button.

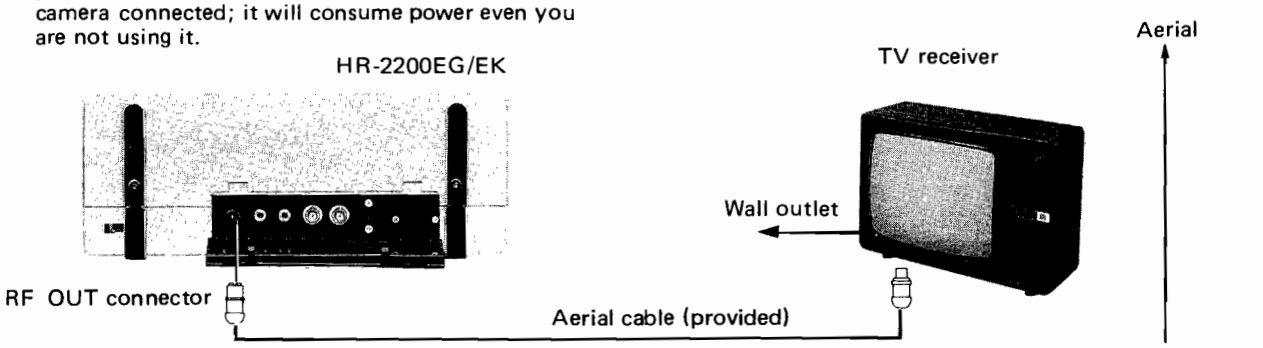
1. After step 6 above, release the trigger switch to "off".
2. Press the POWER button to OFF.
   - The Recording Standby mode is maintained even though power is switched off.
   - Take time to prepare for the next shot. Since the video head drum has stopped rotating, there is no need to worry about tape damage however long you remain in the Recording Standby mode.
3. When you are ready for the next shot, first press the REC LOCK button and then the POWER button.
   - Power is applied while the Recording Standby mode is engaged.
4. After about 10 seconds (this warm-up time is necessary for both the camera and the recorder), press the camera's trigger switch to start recording.
   - This enables the ESC mechanism to function in the same manner as if the tape was stopped by the trigger switch, producing smoothly assembled shots.
   - The REC LOCK button may be left engaged as long as you wish to continue assembled recordings. However, be sure to release it to OFF after putting the recorder in the Stop mode.

PLAYBACK USING A TV RECEIVER

Connection

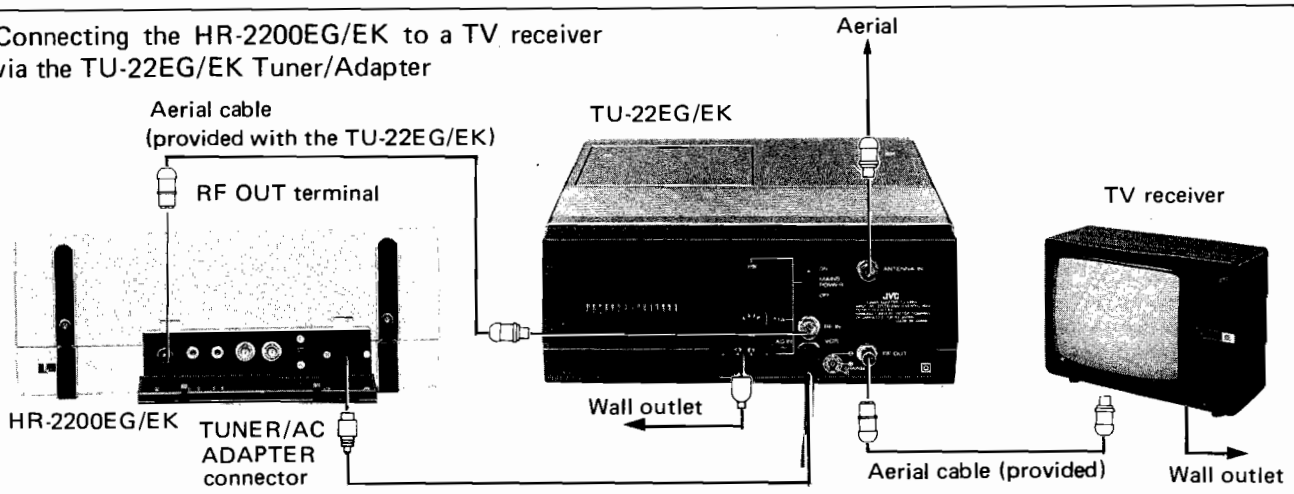
Connecting the HR-2200EG/EK directly to a TV receiver

Note: Employ a fully recharged battery pack. For continuous playback, one fully-charged battery pack lasts for about 2 hours. Do not leave a video camera connected; it will consume power even you are not using it.



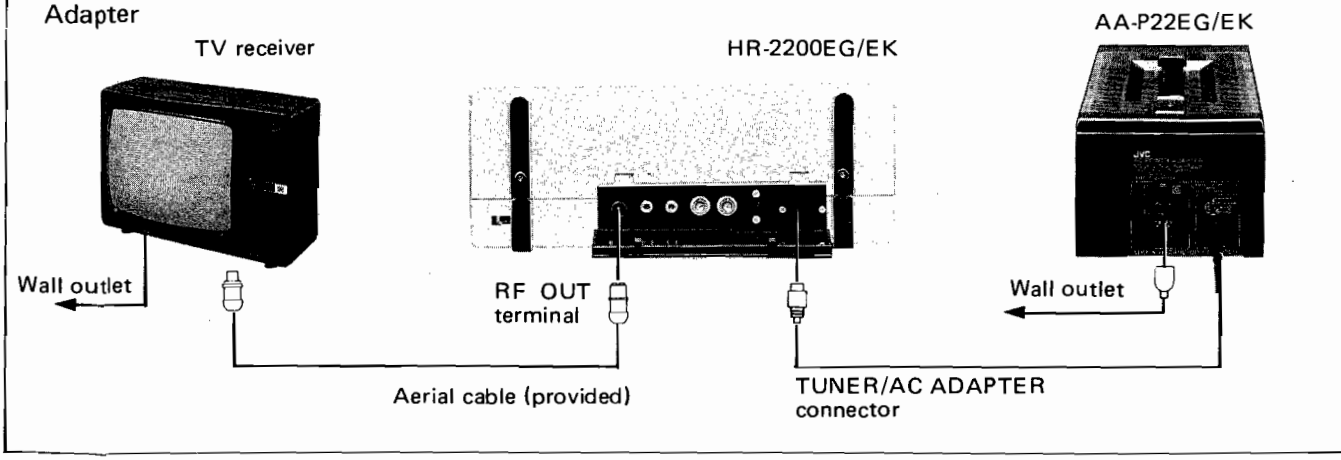
Remove the aerial from the TV receiver and connect the aerial cable (provided) to the TV receiver's aerial terminal.

Connecting the HR-2200EG/EK to a TV receiver via the TU-22EG/EK Tuner/Adapter

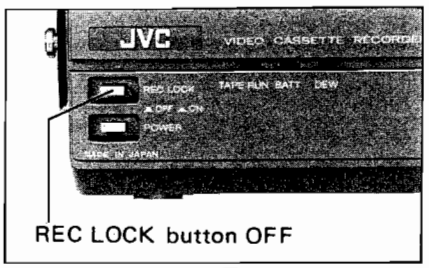


* For more details, refer to the instruction manual for the TU-22EG/EK

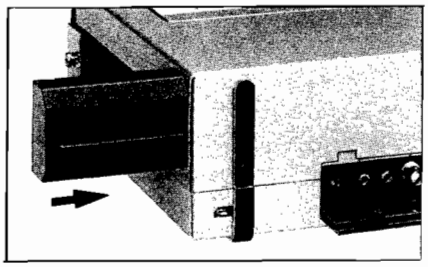
Connecting the HR-2200EG/EK to a TV receiver for playback using the AA-P22EG/EK AC Power Adapter



Operation

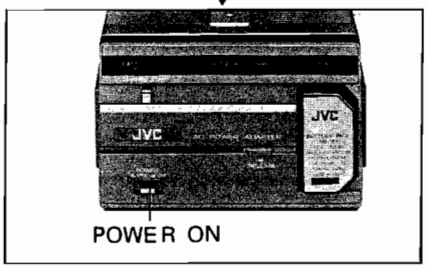


1. Load a pre-recorded cassette correctly and make sure that the REC LOCK button is released.
   - If the REC LOCK button is engaged, press it to release.



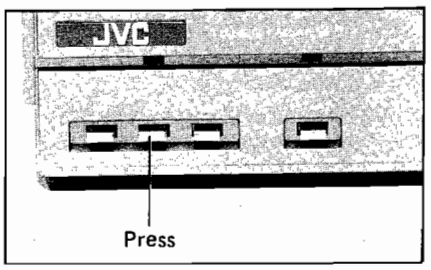
When using the NB-P1 battery pack

2. Install the fully-charged battery pack into the HR-2200EG/EK.



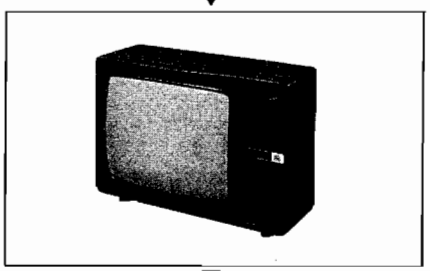
When using the AA-P22EG/EK AC Power Adapter

2. Set the POWER button of the AA-P22EG/EK to ON.



When using the TU-22EG/EK Tuner/Adapter

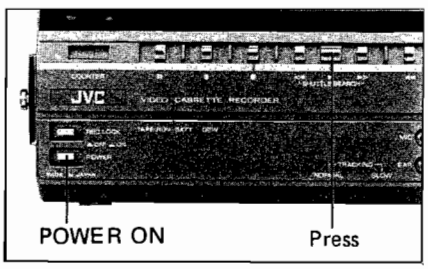
2. Press the sub-power ON button of the TU-22EG/EK.



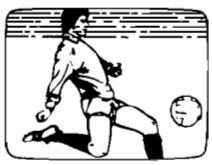
3. Set the TV receiver's channel selector to the RF converter output channel (your video channel).

Note

If hum noise is heard or noise bars appear on the TV receiver when you are using the recorder placed on the TV receiver, keep the recorder away from the TV receiver.



4. Press the POWER button of the HR-2200EG/EK to ON and then press the PLAY button.



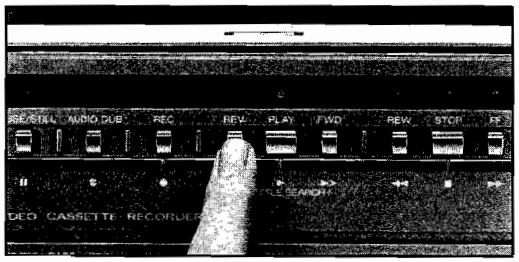
Note

If the playback picture contains noise bars.

Is the TRACKING NORMAL control of the recorder properly adjusted? Turn the knob to centre until a click is heard. If noise bars still appear, turn the knob slowly in either direction until they move out of the screen. Recording should always be done with this control returned to centre.

SHUTTLE SEARCH AND VARIABLE-SPEED PLAYBACK

The HR-2200EG/EK permits variable-speed playback. Among several different modes, the Shuttle Search and Still playback can be performed with both the recorder's controls and the remote control unit, while slow-motion playback and frame advancing are possible only via the remote control unit.



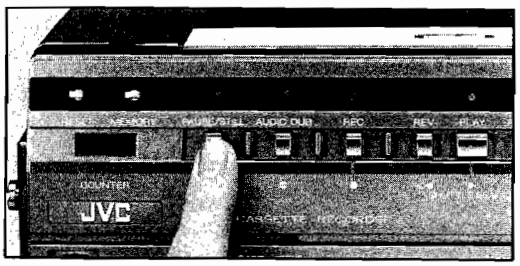
Shuttle search function

Forward or reverse playback at a speed about 10 times the normal is called "shuttle search" and is useful to find a particular tape segment quickly while also referring to the picture on the screen.

- Engage the Play mode by pressing the PLAY button.
- To shuttle-search in the forward direction, press the SHUTTLE FWD button. The tape will be played back at a speed about 10 times the normal while the button is being pressed.
- To shuttle-search in the reverse direction, press the SHUTTLE SEARCH REV button. The tape will be played back in the reverse direction at a speed about 10 times the normal while the button is being pressed.
- When the button is released, normal playback is resumed.

Notes

- Several noise bars will appear during shuttle-search operation. This is not due to any defect of the unit.
- If the picture rolls vertically, make adjustment using the TV receiver's V-hold control.

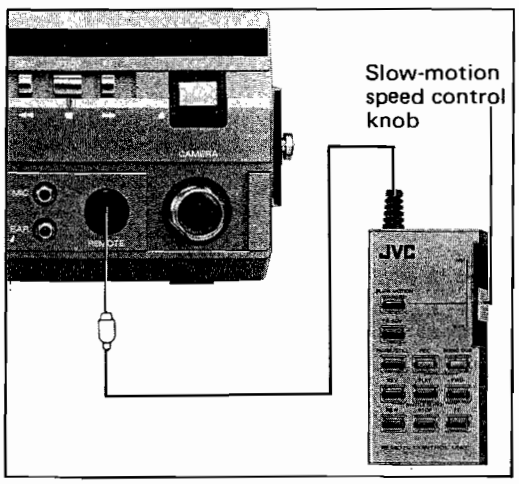


Still-frame playback

- Engage the Play mode by pressing the PLAY button.
- To view a still picture, press the PAUSE/STILL button.
- To stop still-frame playback, press the PLAY button.

Note

- If you remain in the Still mode continuously for longer than 5 minutes, the recorder automatically enters the Stop mode.

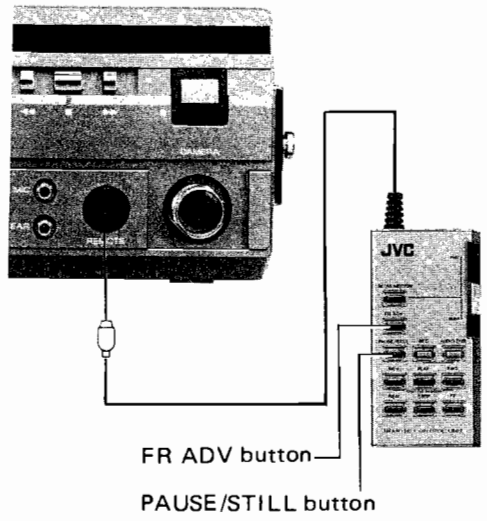


Slow-motion playback using the remote control unit

- Connect the provided remote control unit to the REMOTE connector of the recorder.
- Engage the Play mode by pressing the PLAY button.
- To start slow-motion playback, press the SLOW button.
- To vary the slow-motion speed, slide the speed control until you get the desired speed; toward FAST for faster speeds and SLOW for slower speeds.
- To restore the normal playback, press the PLAY button.

Note

If you remain in the Slow mode continuously for longer than 5 minutes, the recorder automatically enters the Stop mode.



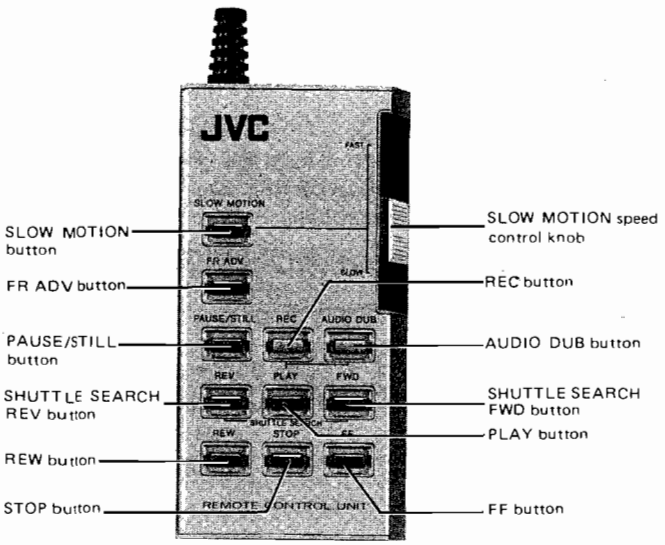
Frame-advance playback using the remote control unit

- Connect the provided remote control unit.
- Engage the Play mode by pressing the PLAY button.
- Press the PAUSE/STILL button.
- Then press the FR ADV button. Pressing it once advances the picture by one frame. Keeping it pressed advances the picture by one frame per second.
- To restore the normal playback, press the PLAY button.

Note
If you remain in the Frame-advance mode continuously for longer than 5 minutes, the recorder automatically enters the Stop mode.

Note
Noise bars may appear during still-frame, slow-motion and frame-advance playback. In such a case, first check to see if the SLOW TRACKING control has gotten out of place. First turn the SLOW TRACKING control to the centre until a click sound is heard. If noise still remains, engage the Slow-motion mode and turn the SLOW TRACKING control slowly in either direction until the noise bars move out of the frame.

- If noise bars cannot be removed by adjusting the TRACKING control, consult your local JVC dealer.



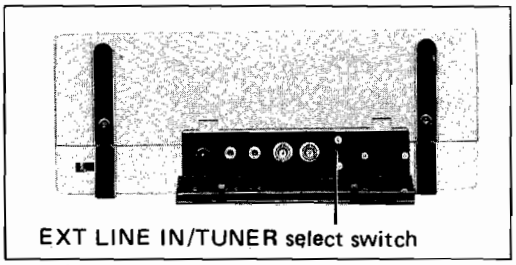
Remote control unit

- The provided remote control unit is exclusively for use with the HR-2200EG/EK.
- Connection should be made to the REMOTE connector on the front panel.
- All controls except SLOW, FR ADV and speed control functions are the same as the corresponding buttons on the recorder.

The recorders controls are operative even when the remote control unit is connected.

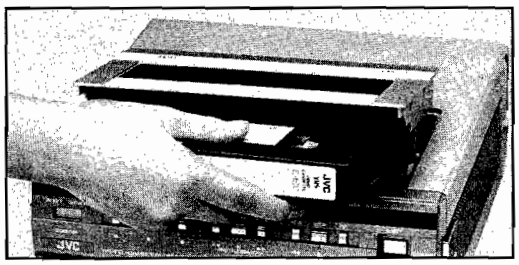
RECORDING OFF-AIR TV PROGRAMMES USING THE TU-22EG/EK TUNER/ADAPTER

The HR-2200EG/EK permits recording off-air TV programmes when combined with the TU-22EG/EK Tuner/Adapter (optional).

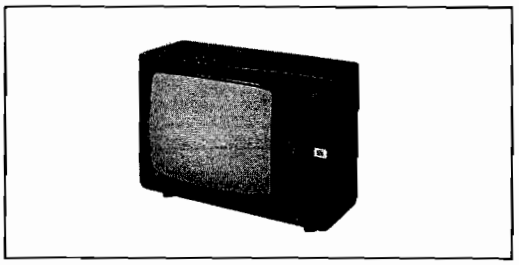


- Connect the TU-22EG/EK and TV receiver correctly to the HR-2200EG/EK.
  - For connection, refer to page 18.
- Switch the power on for these units.

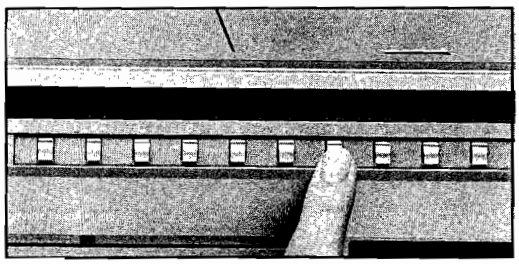
1. Set the EXT LINE IN/TUNER select switch, located on the rear panel of the HR-2200EG/EK, to TUNER.



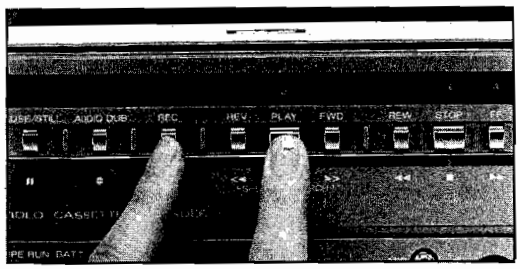
2. Load a video cassette correctly.
   - Make sure that the cassette safety tab is in place.



3. Set the TV receiver's channel selector to the RF converter output channel (your video channel).



4. Press the channel select button of the TU-22EG/EK corresponding to the channel you wish to record.



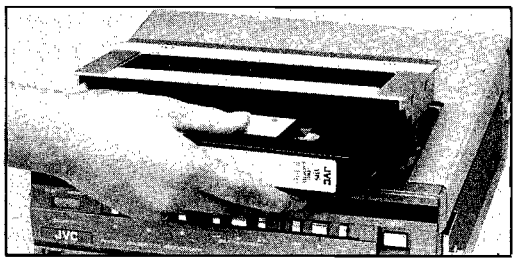
5. Press the REC and PLAY buttons simultaneously.
   - This will start recording of the programme appearing on the TV screen.
   - To stop recording, press the STOP button.

Caution
If a video camera is connected to the front panel CAMERA connector during recording of off-air TV programmes, the camera signals have priority and will be recorded. Disconnect a video camera when you wish to record off-air TV programmes.

Recording one TV programme while watching another
Set the TU-22EG/EK for recording one TV programme in the same manner as described in steps 1 – 5, and set the TV receiver channel to any other channel you wish to view.

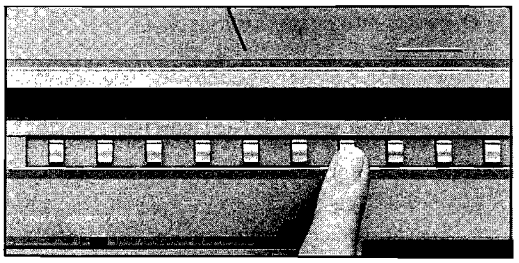
TIMER RECORDING USING THE TU- 22EG/EK TUNER/ADAPTER

The TU-22EG/EK's built-in timer enables automatic unattended recording on any day of the coming 10 days including the day of setting.

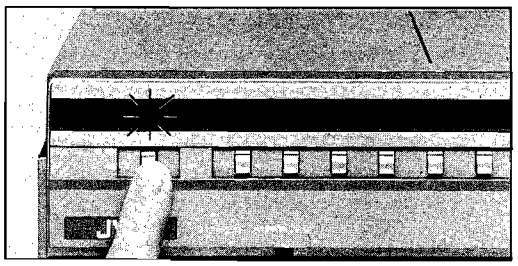


- Connect the TU-22EG/EK to the HR-2200EG/EK correctly.
  - For connection, refer to page 18.
- Switch the power on for the TU-22EG/EK.

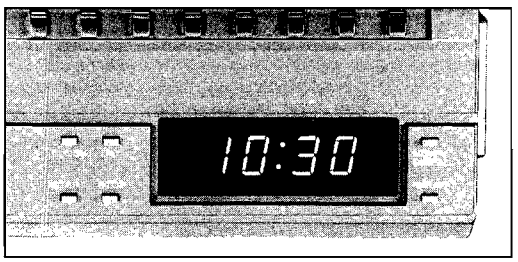
1. Load a video cassette correctly.



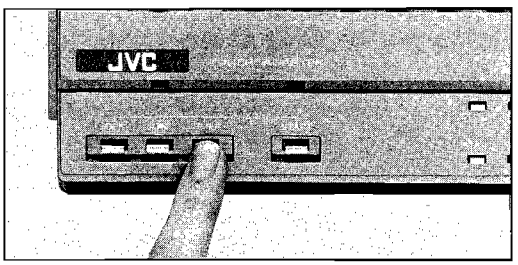
2. Press the channel select button of the TU-22EG/EK corresponding to the channel you wish to record.



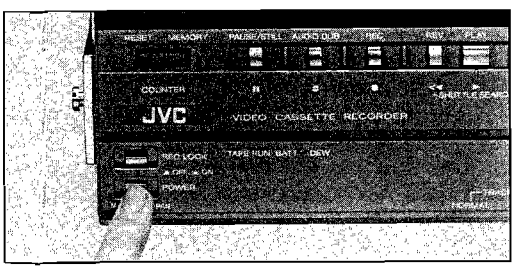
3. Press the CHANNEL LOCK button of the TU-22EG/EK to ON.
   - The CHANNEL LOCK indicator will light.



4. Set the TU-22EG/EK's timer as required.
   - Refer to the instruction manual of the TU-22EG/EK for the procedure of timer setting.



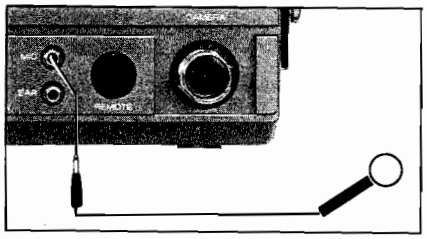
5. Press the TIMER button of the TU-22EG/EK.
   - The power indicator of the TU-22EG/EK will turn off.

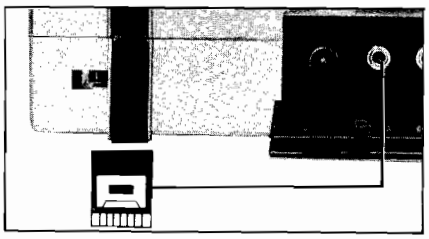


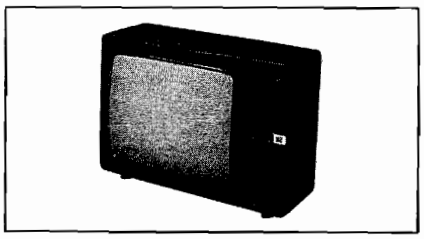
6. Press the POWER button of the HR-2200EG/EK to ON.
   - When the desired preset time is reached, power will be applied to the recorder and, due to the timer start signal supplied from the TU-22EG/EK, the recorder will start recording automatically.
   - There is no need to press the REC and PLAY buttons to engage the Recording Standby mode.

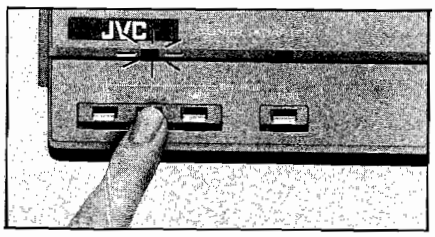
AUDIO DUBBING

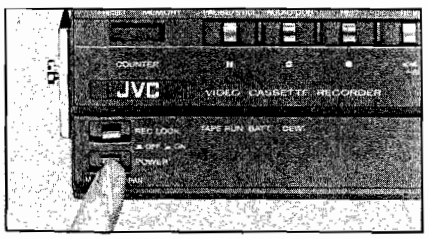
Audio dubbing means recording a sound track on a prerecorded cassette. Sound from a source connected to the rear panel AUDIO IN connector of the HR-2200EG/EK or from a microphone connected to the front panel MIC jack can be recorded.

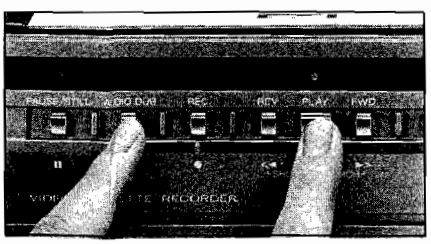












- Connect the HR-2200EG/EK to the TU-22EG/EK or AA-P22EG/EK and the TV receiver correctly.
- Connect a microphone to the front panel MIC jack when recording a narration or a song through the microphone.
- Connect a tape recorder or other audio sources to the rear panel AUDIO IN connector when recording background music or other previously recorded audio. In this case, the rear panel EXT LINE IN/TUNER select switch should be set to EXT LINE IN.

1. Load a pre-recorded cassette.

2. Set the TV receiver channel to the channel of the RF converter to monitor the playback picture while dubbing audio.

3. Switch the power on for the AA-P22EG/EK or TU-22EG/EK.

4. Press the POWER button of the HR-2200EG/EK to ON.

5. Press the AUDIO DUB and PLAY buttons simultaneously.
   - The AUDIO DUB and PLAY indicators will light and audio dubbing will start.
   - The pause function facilitates audio dubbing. First play back the pre-recorded tape and press the PAUSE/STILL button at the point from which you wish to start audio dubbing. Then press the AUDIO DUB and PLAY buttons simultaneously. This permits you to start audio dubbing exactly at the right point.

Notes

- The previously recorded sound is erased and replaced with a new sound track by audio dubbing.
- If the MIC jack and the AUDIO IN connector are used at the same time, the input from the MIC jack has priority.

If the AUDIO DUB indicator does not light

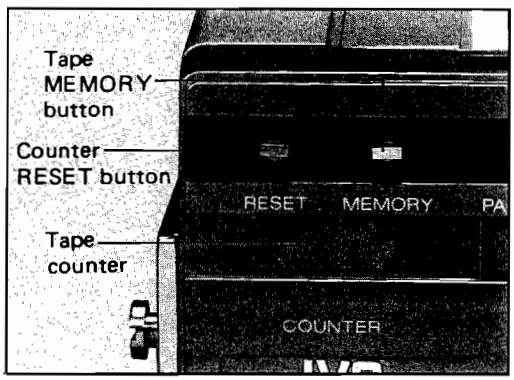
Check to see if the cassette safety tab is in place. If it has been broken and removed, reseal the slot with cellophane tape.

- If whistling or howling is heard during audio dubbing, reduce the TV volume or move the microphone farther away from the TV. Recording is being performed even if sound is not heard from the TV receiver. If you want to monitor the sound being recorded, connect the provided earphone to the EAR jack.

ADDITIONAL FACILITIES

Tape counter and tape memory function

When the MEMORY button is pressed, the tape will stop automatically in the Rewind and Fast Forward modes at the counter reading of "0". This facility is convenient when you wish to view a specific tape section repeatedly or the section that you have recorded just before.



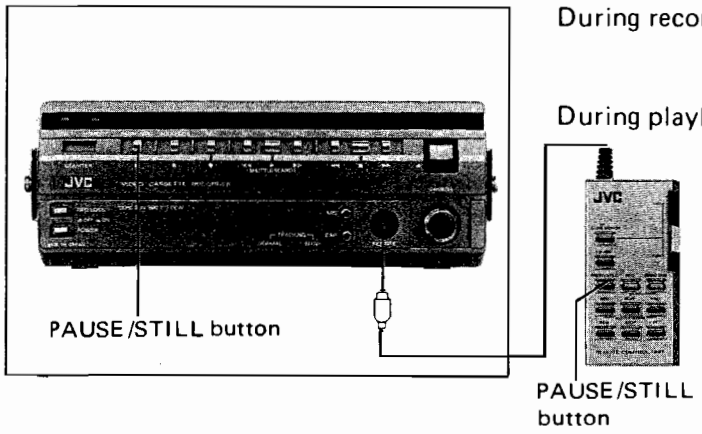
1. Reset the tape counter to "0" during playback or recording.
2. After playback or recording, press the MEMORY button. "M" will appear at the bottom left-hand corner of the tape counter display.
3. Press the REW button. The tape will rewind and stop at the counter reading of "0".
   - Depending on the situation, search for "0" is also possible by pressing the FF button.
4. Press the PLAY button to resume playback.

Notes

- If you wish to cancel the memory function once you have engaged the MEMORY button, simply press the MEMORY button again. The indication "M" will disappear.
- The Memory mode is automatically released with the indication "M" disappearing, when the tape stops at the counter reading of "0".
- While the tape is being wound in the forward direction (playback, recording, fast forward, etc.), the counter reading advances in the direction of increasing numbers, such as 0, 1, 2, 3 . . .
- While the tape is being wound in the reverse direction (rewind, etc.), the counter reading changes in the direction of decreasing numbers and after "0" a "minus" sign appears, such as 3, 2, 1, 0, -1, -2, -3 . . . . .

Pause facility

The PAUSE/STILL button permits stopping the tape temporarily during recording. While the tape is stationary, the input signals can be seen and heard. This facility is convenient to eliminate unwanted material from your recordings.



During recording . . . . . Employ the PAUSE/STILL button to stop the tape temporarily.

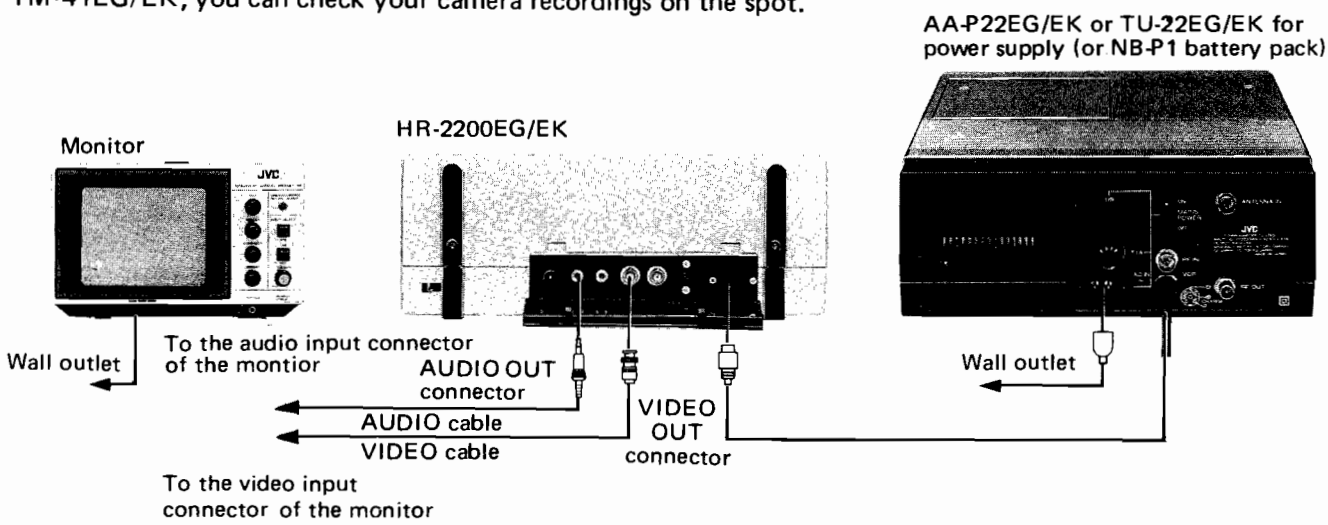
During playback . . . . . Employ the PAUSE/STILL button to view a still picture.

Notes

- If you continue the Pause or Still mode for longer than 5 minutes, the recorder automatically enters the Stop mode.
- To release the Pause or Still mode, press the PLAY button.

CONNECTING TO A VIDEO MONITOR

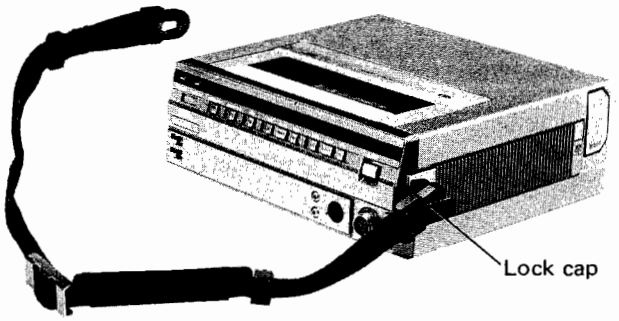
The HR-2200EG/EK can be connected to a video monitor. If you employ a portable monitor such as the JVC TM-41EG/EK, you can check your camera recordings on the spot.



Note

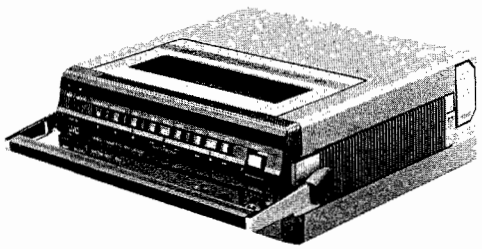
- For battery operation of the TM-41EG/EK, an exclusive battery pack (PBP-1) is needed.
- For recharging the PBP-1 battery pack, the optional AA-P41EG/EK is required.

ATTACHING THE SHOULDER STRAP OR CARRYING HANDLE



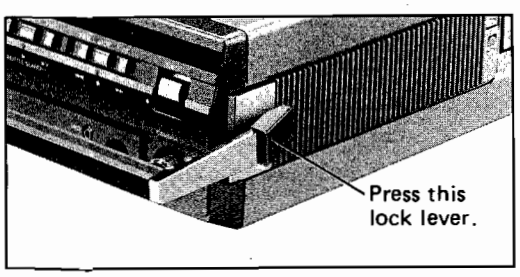
Attaching the shoulder strap

- Open the lock caps on both ends of the shoulder strap and hook the lugs onto the strap/handle retainers.
- Close the lock caps.
- To remove the shoulder strap, first open the lock caps.



Attaching the carrying handle

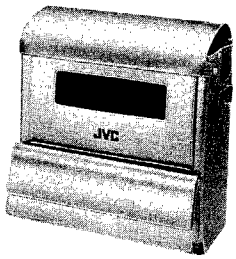
- Apply the carrying handle from the front of the recorder as illustrated.
- Then pull the handle forward. This allows it to be fixed to the strap/handle retainers.



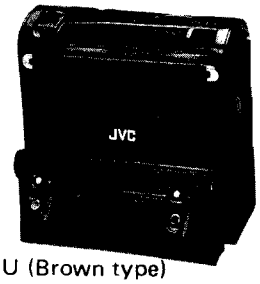
- To remove the handle, press the lock levers on both ends of the carrying handle and push the handle toward the rear of the unit.

CARRYING CASE AND SHOULDER CART (OPTIONAL)

Two different carrying cases are available for the HR-2200EG/EK.

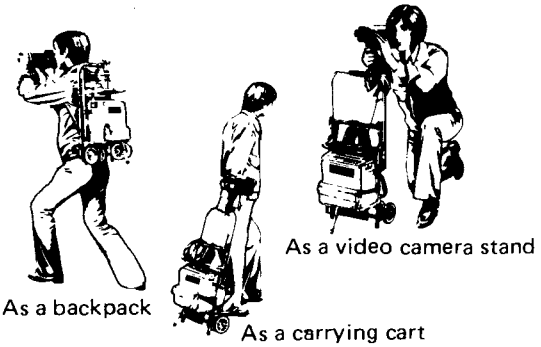


CB-P22SU (Silver-colour type)



CB-P22BU (Brown type)

The SC-P2U Shoulder Cart is a multi-purpose unit that can be used either as a carrying cart or a back-pack. Employ this unit for on-location recording.



As a backpack

As a carrying cart

As a video camera stand

IN CASE OF DIFFICULTY

Symptoms	Check points
No power is applied when the POWER button is pressed to ON.	• Is the battery pack correctly installed? • Is the battery pack charged? • Is the power cord of the AA-P22EG/EK or the TU-22EG/EK connected? • Is the output cord of the AA-P22EG/EK or TU-22EG/EK correctly connected?
Rewinding or fast forwarding is impossible.	• Check to see if the tape has already been wound to one reel or the other fully.
Recording or audio dubbing is impossible.	• Check to see if the cassette safety tab is in place.
Recording of TV programmes is impossible.	• Is the EXT LINE IN/TUNER select switch on the rear panel of the HR-2200EG/EK set to TUNER?
Noise bars appear on the playback picture.	• Remove noise bars using the TRACKING controls. See page 19. • Noise bars during shuttle search cannot be eliminated.

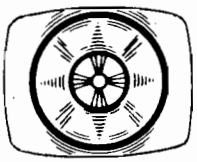
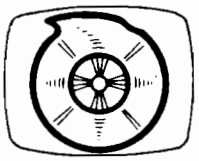
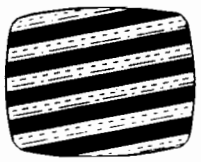
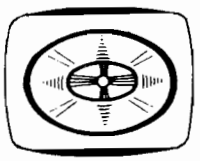
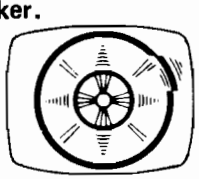
HEAD CLEANING

- Picture playback may become blurred or interrupted while the TV programme received is clear. This does not mean that the recorded programme has been erased.
- Dirt accumulated on the video heads after long periods of usage causes such troubles. In this case, head cleaning requiring highly technical care is necessary.

For head cleaning, consult the nearest JVC dealer.

ADJUST YOUR TV RECEIVER WHEN...

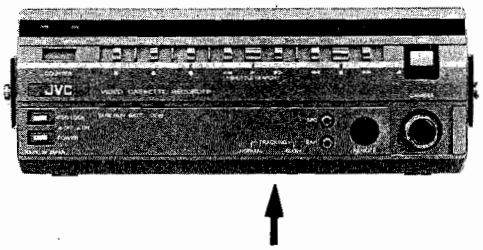
If your TV receiver shows the following symptoms during Still Playback or Slow-motion Playback using the HR-2200EG/EK, adjust the TV receiver first.

Symptom	Adjustment
Picture vibrates vertically. 	Turn the V-Hold knob slightly for stabilizing.*
The upper portion of the picture drifts horizontally. 	Turn the H-Hold knob slightly for stabilizing.**
Picture rolls. 	Turn the H-Hold knob slightly for stabilizing.**
Picture is flattened vertically. 	Inherent in your TV receiver. Not adjustable.
Only a portion of the picture continues to flicker. 	Inherent in your TV receiver. Not adjustable.

If the V-Hold and H-Hold knobs are not provided on your TV receiver, please consult the JVC store where you bought the HR-2200EG/EK or your local JVC dealer.

Note:

* If an unsatisfactory result is obtained, adjust a potentiometer under the small square cover located at the bottom of the unit so that a stable picture is obtained.



** If an unsatisfactory result is obtained, it is necessary to adjust the AFC circuit of the TV receiver.

SPECIFICATIONS

General

Power requirement	: 12 V ⎓ DC
Power consumption	: 9.6 watts
Weight	: 5.2 kg including battery pack 4.4 kg without battery pack
Dimensions	: 288(W) x 103(H) x 268(D) mm
Temperature	
Operating	: 0° to 40°C
Storage	: -20° to 60°C

Tape section

Format	: VHS PAL standard
Video signal system	: PAL-type colour and monochrome signal, 625 lines
Video recording system	: Rotary, slant azimuth, two-head helical scanning system
Tape width	: 12.7 mm
Tape speed	: 23.39 mm/sec.
Maximum recording time	: 180 min. (with JVC E-180 cassette)
Rewind and fast forward time	: Within 5 minutes (with JVC E-180 cassette)
Video signal	
Input	: 0.5 to 2.0 Vp-p, 75 ohms unbalanced
Output	: 1.0 Vp-p, 75 ohms unbalanced
Horizontal resolution	: More than 240 lines (colour mode)
Signal-to-noise ratio	: More than 43 dB (Rohde & Schwarz noise meter)
Audio signal	
Microphone input	: -67 dBs, high impedance, unbalanced
Line input	: -20 dBs, 50 k-ohms, unbalanced
Line output	: -6 dBs, less than 1 k-ohm, unbalanced
Earphone output	: 0 dBs, 100 ohms, unbalanced
Frequency response	: 100 to 8 000 Hz
Signal-to-noise ratio	: More than 40 dB

RF section

RF output channel	: UHF channels 32 – 40
Output impedance	: 75 ohms unbalanced

Accessories

Provided	: Remote control unit, aerial cable x 2 (1 for EK-version), shoulder strap, carrying handle, earphone, NB-P1 Battery pack, antenna selector (EG-version only)
Optional	: CB-P22SU/BU Carrying bag SC-P2U Shoulder cart AP-P2 Car battery cord

Design and specifications subject to change without notice.

JVC

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